

In the Claims:

Please cancel claim 20, amend claims 1-6 and 14, 16, 17-19, 21, 23, and 28 and add claims 29-30, as follows. All pending claims, whether or not amended, are presented below for the Examiner's convenience and will replace all prior versions, and listings, of claims in the application:

1. (Currently amended) An isolated composition comprising:
 a) a first single stranded nucleic acid;
 b) a second single stranded nucleic acid, wherein said first and second nucleic acids are complementary to each other; and
 c) at least one recombinant Rad52 protein from a higher eukaryote.
2. (Currently amended) A composition according to claim 1, ²~~29~~, or ³~~30~~ wherein said first and second nucleic acids are perfectly complementary to each other.
3. (Currently amended) A composition according to claim 1, ²~~2, 5 or 23~~, ³~~29~~ or ³~~30~~ wherein said Rad52 protein is labeled.
4. (Currently amended) A composition according to claim 1, ²~~29~~, or ³~~30~~ wherein said Rad52 is a human Rad 52 protein.
5. (Currently amended) A composition according to claim 1, ²~~29~~, or ³~~30~~ wherein said first and second nucleic acids are minimally complementary to each other.
6. (Currently amended) A composition according to claim 1, ²~~29~~, or ³~~30~~ wherein at least one of said first and second nucleic acids are labeled.

Claims 7-13 (Cancelled).

13. (Currently amended) A method of screening for a bioactive agent involved in nucleic acid binding comprising:
 a) contacting:
 i) a candidate bioactive agent;
 ii) a first single stranded nucleic acid; and
 iii) isolated Rad52 protein from a higher eukaryote; and
 b) ~~screening for determining said~~ binding of said candidate agent and said Rad52 to said first nucleic acid.

Claim 15 (Cancelled).

14. (Currently amended) A method of screening for a bioactive agent involved in nucleic acid binding comprising:

- 503 F2
- a) adding:
- i) a candidate bioactive agent;
 - ii) a first single stranded nucleic acid; and
 - iii) isolated Rad52 protein from a higher eukaryote to form a mixture; and
- b) screening said mixture for altered biological ~~nucleic acid binding~~ biological activity, when compared to the ~~nucleic acid binding~~ biological activity of said composition in the absence of said candidate agent.

17. (Currently amended) The method according to claim 14, 16, 18, or 19, ~~or 20~~ wherein said first nucleic acid and said isolated Rad52 are complexed prior to the addition of said candidate agent.

15
18. (Currently amended) A method of screening for a bioactive agent involved in nucleic acid annealing comprising:

- a) adding:
- i) a candidate bioactive agent;
 - ii) a first single stranded nucleic acid; and
 - iii) isolated Rad52 protein from a higher eukaryote to form a mixture; and
- b) screening said mixture for altered ~~nucleic acid annealing~~ biological activity, when compared to the ~~nucleic acid annealing~~ biological activity of said composition in the absence of said candidate agent.

16
18. (Currently amended) A method of screening for a bioactive agent involved in strand exchange comprising:

- a) adding:
- i) a candidate bioactive agent;
 - ii) a first single stranded nucleic acid; and
 - iii) isolated Rad52 protein from a higher eukaryote to form a mixture; and
- b) screening said mixture for altered ~~strand exchange~~ biological activity, when compared to the ~~strand exchange~~ biological activity of said composition in the absence of said candidate agent.

Claim 20 (Cancelled).

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21. (Currently amended) The method according to claim ~~14, 16, 18, or 19~~, or 20 wherein said Rad52 protein is mammalian Rad52 protein.

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22. (Previously amended) The method according to claim ¹⁷~~21~~ wherein said Rad52 protein is human Rad52 protein.

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23. (Currently amended) A composition according to claim 1, ~~29~~, or 30 wherein said first and second nucleic acids are substantially complementary to each other.

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24. (Previously amended) A composition according to claim 1 further comprising Rad51.

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25. (Previously amended) A composition according to claim 1 further comprising RPA.

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(Previously amended) A composition according to claim 1 wherein said Rad52 protein is at least 90% homologous to about amino acid 36 to about amino acid 185 of human Rad52 protein.

[Claim 27 (Cancelled).

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(Currently amended) The method according to claim ^{13 14 15 16} ~~14, 16, 18, or 19~~, or 20 wherein said Rad52 protein is labeled.

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~~29.~~

(New) A composition comprising:

- a) a first single stranded nucleic acid;
- b) a second single stranded nucleic acid, wherein said first and second nucleic acids are complementary to each other;
- c) at least one recombinant Rad52 protein from a higher eukaryote; and
- d) further comprising at least one Rad51 protein from a higher eukaryote.

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~~30.~~

(New) A composition comprising:

- a) a first single stranded nucleic acid;
- b) a second single stranded nucleic acid, wherein said first and second nucleic acids are complementary to each other;
- c) at least one recombinant Rad52 protein from a higher eukaryote; and
- d) further comprising RPA.

37

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